

Haier

FRONT LOAD WASHING MACHINE

Service Manual



Suited model:

HNS1460TVE
HNS1460TVEME

Features

300mm diameter porthole, door may be open at a 180 degrees.

Class-A energy-saving; Homocentric tubs with higher energy efficiency

Multi-gear speed controller

Unique gasket design featuring no residual water hidden inside

Delay time adjustive

Large wash load capacity 6kg,Europe standard AAB

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PRODUCT INTRODUCTION

It represents HNS series appearance with big window 180° opening window 1400rpm spin speed. Spin speed is adjustable from 400 to 1400 rpm, and also exclude spin (indicated "0") temperature is also adjustable, you can also choose cold water. It's controlled by computer.

FEATURES

300mm diameter porthole, door may be open at a 180 degrees.

Facilitate view of wash process, facilitate unloading and easy to use with large porthole.

Multi-gear speed controller

According to different costuming you can select corresponding spin speed from 400 to 1400 rpm.

Unique gasket design featuring no residual water hidden inside.

By the unique gasket washing machine can left no residual water hidden between outer drum and board.

SPECIFICATION

Proposal		2007	New Sensor
Front load washing machines			
Brand position center upper frame of door / chromed sticker			
Model number serigraphy right top corner control panel			
On white: silver / On silver : black or dark grey			
1.	Product identification		
	Description of appliance		Washing machine
	Type of appliance (FS = standing, BI = built-in)		FS
	Supplier own brand		Haier
	Supplier bar code	EAN	
	Mares computer code		
	Commercial Brand / Model		
	Commercial bar code	EAN	
2.	Key-Features		
	Energy efficiency class		A
	Washing performance class		A
	Spin efficiency class		B
	Programs	n°	11
	Capacity	Kg	Max. 6
	Spin speed (max. / optional)	rpm	1400-0
	Noise level	dB(A)	71
	Energy consumption per wash circle *	kWh	0.95
	Water consumption*	l	<49
	Residual dampness (spin result)	%	56%
	Spin speed selector switch (steps)	rpm	1400/1200/1000/800/600/400/0
	Spin speed variator (stepless)	rpm	
	Adjustable thermostat (water temp. adjust from - to)	°C	90 - ❄
	Drum capacity dry laundry / water	kg / l	6 / 49
	Auto water level adjust (depending on volume of filled in laundry)	AWL	
	Washing time (max.)	min	178(TBC)
	Washing temperatures (program-controlled)	°C	30/40 / 60 / 90
	Certification's (CE / ISO 9001 / ISO 9002)		CE / ISO 9001
	Approvals (VDE/GS / TÜV/GS / IMQ)		TÜV/GS (Rhl.)
	* EN 60456 (60°C cycle, full load without pre-wash) COLD		
3.	Basics data		
	Unit dimensions (H x W x D)	cm	85 x 59.5 x 56.5
	Net weight	kg	70
	Voltage/frequency	V/Hz	220-240V~50Hz
	Input power / main fuse (intensity)	W / A	2000/10
	Work top / removable		/
	Control M = electromechanical, E = electronic, F = fuzzy		E
	Drum S = stainless steel / Z = zinc coated		S
	Tub P = Polyprop./ S = stainless steel		P
	Door:		
	aesthetic (R = round, Y = big eye, Q = square)		R
	Diameter	cm	30
	Outer door frame S= stainless steel / M = metal / P = plastic		P
	Inner door G= glass / P= plastic		G
	Detergent compartments	n°	3
	Removable compartment for liquid detergent		-

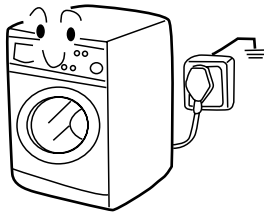
	Delay timer (<i>from - to</i>)	h	0.5-24
	Self cleaning suds pump		●
	Water inlet hose		●
	Water drain hose		●
	Adjustable feet	n°	4
4.	Safety systems		
	Auto door lock	ADL	●
	Motor overheating protection	MOP	●
	No heating without water	NHW	●
	Auto water cool-down (<i>before drain 80°C boiled water</i>)	AWC	●
	Water return protection	WRP	
	Acqua Stop kit		-
	Child protection		●
5.	Programs		
	1) Strong action /cotton cycles	n°	●
	2) Normal action / synthetics	n°	●
	3) Delicate action / wooll cycles	n°	●
	Pre-wash / wash		●
	Quick wash / super quick wash		●/-
	Rinse / soften		●/●
	Delicate / hand wash		-
	Wool / cashmere		●/●
	Soak / spin		●/●
	Drain		●
	Easy ironing		●
	Optional function keys (additional program settings)		
	ON/OFF button		●
	Half load		-
	Fussy		-
	Spin exclusion		-
	Spin speed selection	rpm	●
	High water level		-
	No Soak		-
	Rinse stop		-
	Delicate		-
	Cold wash		●
	Delay Timer		●
	Extra Rinse		-
	Load Select		-
	Easy Ironning		-
	Temperature selection		●
	5kg wash		-
	Prewash		●

REMAK: " ● " Signify the washing machine has this function.

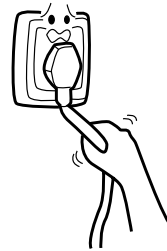
" - "Signify the washing machine doesn't have this function

Matters Needing Attention

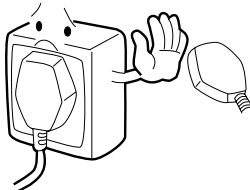
1. A separate earthed socket is required for the power supply. The washing machine must be positioned so that the plug is accessible.



2. Hold the plug and not the electric cable when unplugging the washing machine.



3. Fuses in the power circuit should be rated for 15A. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.



4. Do not touch or use the washing machine barefooted or when the hands or feet are wet.



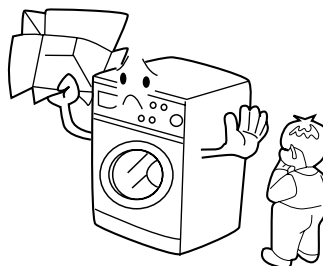
5. Do not use flammable detergent or dry cleaning agent; do not use flammable spray in close vicinity to the washing machine; do not remove or insert the plug in the presence of flammable gas.



6. The door of the washing machine will become hot during the heating process. Avoid contact with the door during the heating process. For safety, keep children away from the washing machine.

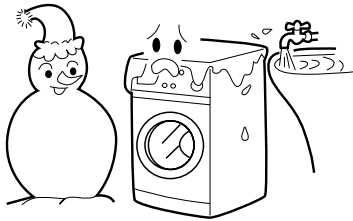


7. Keep children away from the packing materials after unpacked.

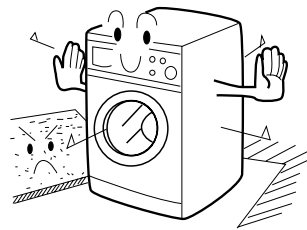


Matters Needing Attention

8. The washing machine should not be installed outdoors or in a damp place. In the event of water leakage or splashes allow the machine to dry naturally.



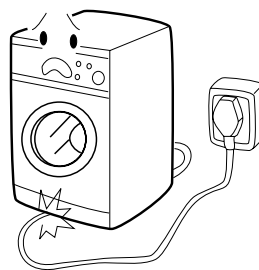
9. The carpet must not obstruct the ventilation openings in the base of the washing machine.



10. Keep away from heat sources and direct sunlight to prevent plastic and rubber components from aging.

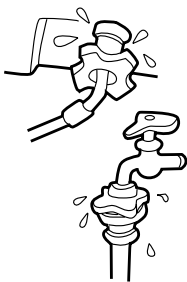


11. During installation, ensure that the electric cable is not trapped by the washing machine and avoid damage to the electric cable.



During Use

1. Before use, check the joints of the filling hose, the tap and the drainage hose for possible problems from water pressure fluctuations. If joints are loose or there is leakage, turn off the tap and repair. Do not use the washing machine until the hoses are properly fixed.



2. Keep the door slightly open when the washing machine is not in use to prevent formation of odors; do not cover the washing machine with plastic cover so that inside dampness cannot be kept in.

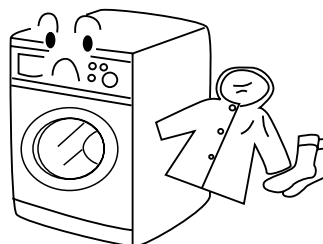


Matters Needing Attention

3. Do not place heavy, heating source or wet articles on the top of the washing machine.

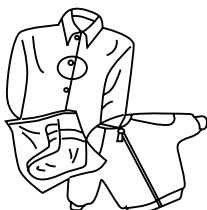


4. Do not hot wash foam rubber or sponge-like materials.

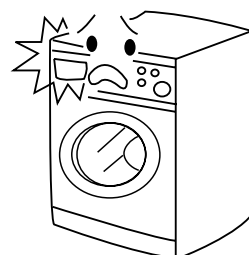


5. Before washing, do up zippers, buttons and clothes straps and put small articles, such as socks, laces or bras, into a washing bag or a pillow.

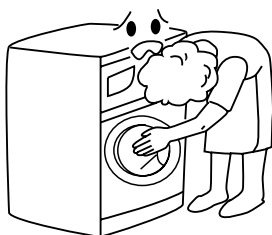
Steel wires in bras will pop out during washing; never wash bras containing steel wires.



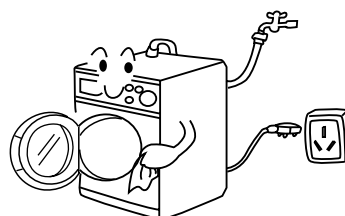
6. Do not open the detergent distribution drawer during the wash cycle..



7. The door is fitted with a self-lock device and will not open until 2~3 minutes after the washing machine stops. Do not force the door open. Do not open the door if water level can reach the porthole.



8. After each wash program, turn off the tap to prevent leakage; and unplug the washing machine and wipe clean the lower part of the porthole.



Installation

- Remove all the packing materials (including the foam base) to prevent vibration during use, as shown in Fig. 1.
Upon opening of the package, water drops may be seen on the plastic bag and the porthole. This is normal phenomenon resulting from water test in the factory

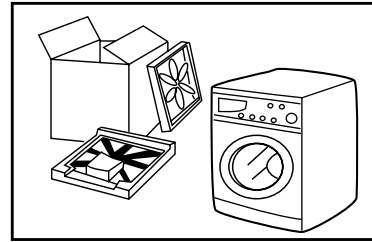


Fig.1

- Dismantle the packing bolts as shown in Fig. 2.

The packing bolts are designed for clamping anti-vibration components inside of the washing machine during the transportation process.

Before use:

1. Remove the back plate;
2. Remove the three packing bolts on the back plate and take out the rubber hose;
3. Replace the back plate;
4. Fill the holes left by the packing bolts with plastic plugs.

(Attention: The packing bolts and rubber hose should be kept in a safe place for later use)

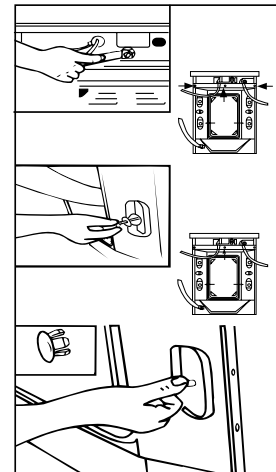


Fig.2

- Adjusting the washing machine

There are adjustable feet under the bottom of the washing machine. Before use, the washing machine should be adjusted, as shown in Fig. 3, so that it is level.

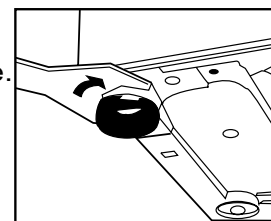


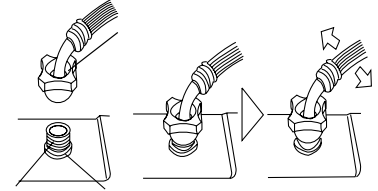
Fig.3

Installation

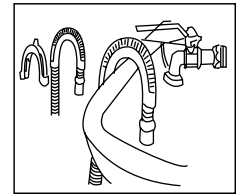
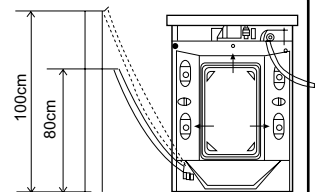
Joining the Inlet Hose to the Washing Machine

Connect the nut on the inlet hose to the connector on the water valve.

Connect of water inlet valve



- The height of the drainage outlet must be 80-100cm. To prevent the drainage hose from dropping off, fix it to the drainage hose clip at the back of the washing machine.
- Use the drainage holder to keep the end of the drainage hose retained and to prevent the outflow of water. It is recommended that drainage hose extensions not be used; if an extension is needed, please consult a serviceman. The additional hose should be no more than 250cm (overextended hoses could lead to siphonage). Note: The drainage hose should not be submerged in water and should be securely fixed and leak-free. The appliance is to be connected to the waster mains using new hose-sets and that old hose-sets should not be reused.



Connecting to the Power Supply

Before connecting to the power supply, check:

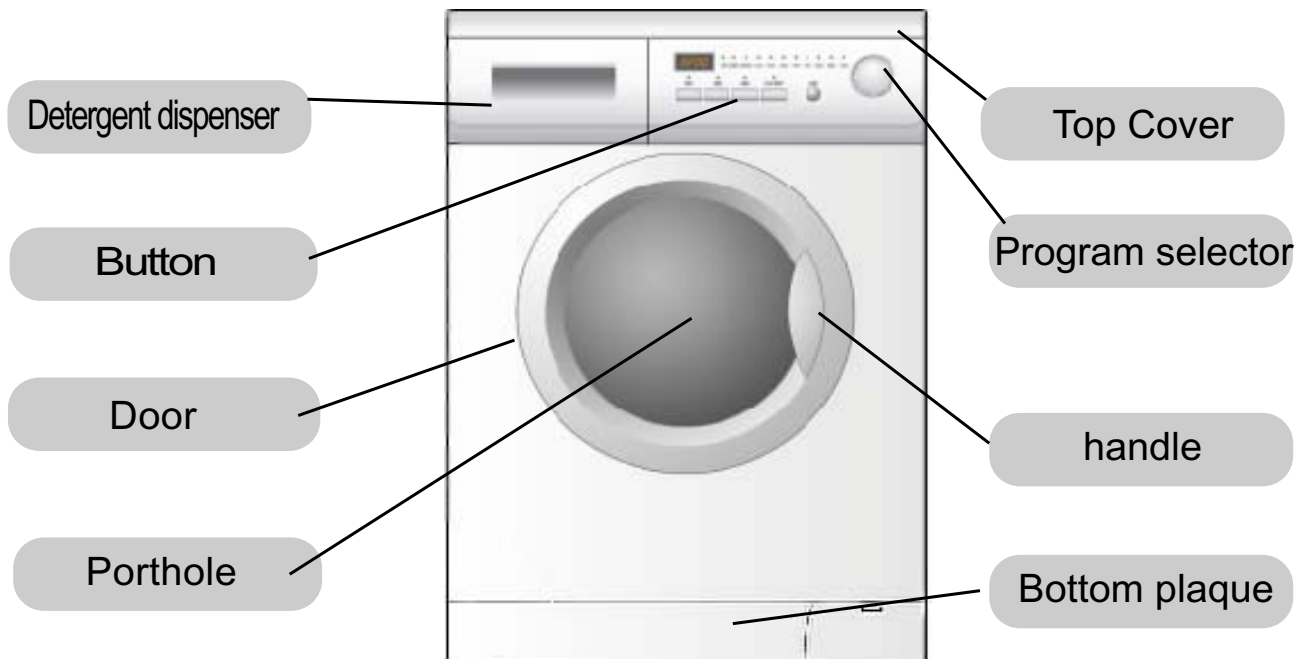
- The socket is adequate for the maximum power of the washing machine (For safety, fuses in the power circuit should be rated for no less than 15A).
- The voltage should meet the requirement.
- The power outlet should be capable of accepting the washing machine plug. The washing machine must be earthed before use.
- Supplementary earth cable should not be necessary if the socket is connected to the earth
- Supplementary earth cable should be installed on the upper back of the washing machine and connected to an earth if the power supply socket has no earth connection

Net Dimension

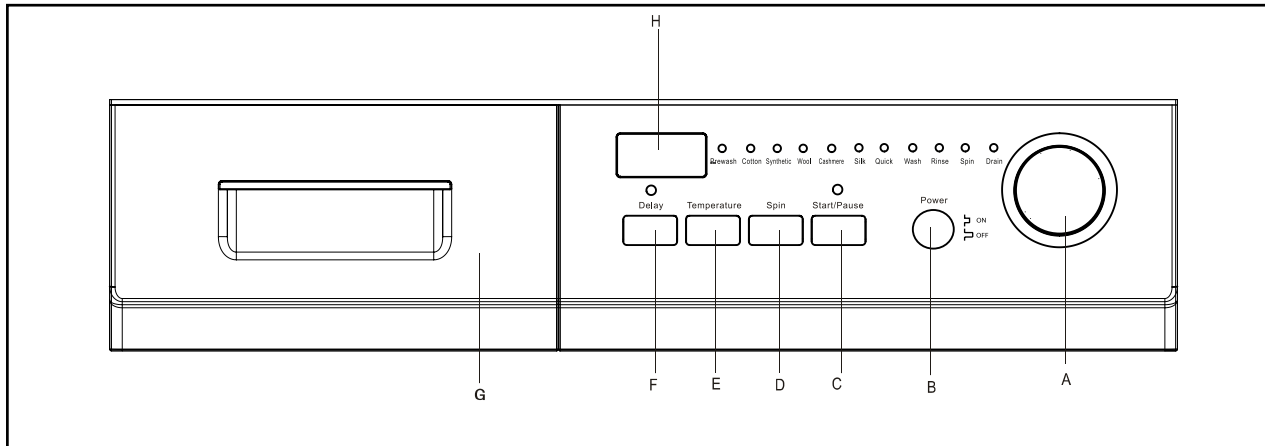


height: 850mm / width: 595mm / depth: 565mm

Name of the parts



Operational Functions



A Wash programming knob

By turning the knob clockwise/counterclockwise, the required program can be selected. There are 11 programs available. After a program is selected, the corresponding light will go on. (Refer to Guide to Operational Program Selection).

B Power Switch

Press this button to switch on the washing machine. Press it again to switch it off.

C Start / Pause Button

When the washing machine is connected to the power socket and a program is selected, washing operation will start. Lightly touch this button during a wash cycle, operation will stop and the digits on the screen start blinking. Touch it again to resume operation. To cancel a wash program during a wash cycle, touch this button, when the digits on the screen start blinking, press the Power switch, the program will be cancelled.

D: Spinning Speed Setting Button

Touch this button lightly to select the desired speed. When a speed is set, it will be displayed on the screen.

Note: Different water temperatures and spinning speeds can be set for different laundries. Wash using the default settings if there is no special requirement.

E: Washing temperature button

Touch this button lightly, the washing temperature will be displayed on the screen. Select a temperature according to the type of laundry.

Functions

F: Delay Button

Touch this button lightly, the washing machine will start operation after a period of time and the corresponding indicator will go on. The range is 0.5-24 hours; each touch of this button increases a half hour. After the button is set, press the Start/Pause button to start countdown of the set time (the time is displayed on the screen until the program ends).

E+F Key Combination (After you press the Start/Pause button ,the E+F Key Combination is available)

Press these two keys simultaneously, the sign "LOCK" and the remaining washing time are displayed on the LED alternately. Now all the function keys except the Power switch can be locked. Press the key combination again to cancel this function.

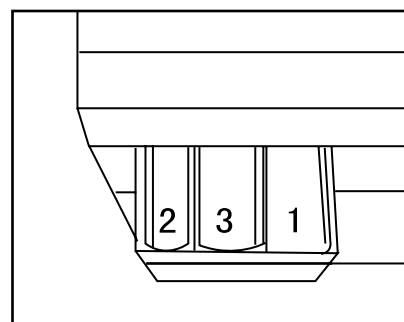
G: Detergent distribution drawer

Open the drawer, three compartments can be seen:

Compartment 1: Pre-wash detergent

Compartment 2: Normal - Quick wash detergent

Compartment 3: Softener, conditioning agent,
perfume, etc.



H: Display

Such information as remaining wash time, temperature and speed setting and error messages will be shown.

Note: After power is switched on, the display will go on and the remaining wash time decreases. As the water pressure and temperature may differ, the remaining time may be adjusted accordingly. When the laundry is not balanced during spinning, the time may be automatically prolonged. These are normal phenomena.

Program description table

Program	Recommended Laundry	Temperature	Detergent		
			1	2	3
Prewash	Heavy-soil laundry	Cold-30-40-60-90	★	★	○
Cotton	Cotton fabrics	Cold-30-40-60-90	×	★	○
Synthetic	Fast-color synthetic	Cold-30-40-60	×	★	○
Wool	Woolen fabrics	Cold-30-40	×	★	○
Cashmere	Cashmere fabrics	Cold-30-40	×	★	○
Silk	Silk fabrics	Cold-30-40	×	★	○
Quick	Medium-soil laundry	Cold-30-40	×	★	×
Wash	Medium-soil laundry	Cold-30-40-60	×	★	×
Rinse	Medium-soil laundry	/	×	×	○
Spin	/	/	×	×	×
Drain	/	/	×	×	×

Note: "○ " indicates that softener can be added if needed;

"★ " indicates that detergent must be added;

" X " indicates that detergent must not be added.

1) The wash temperature refers to the maximum temperature.

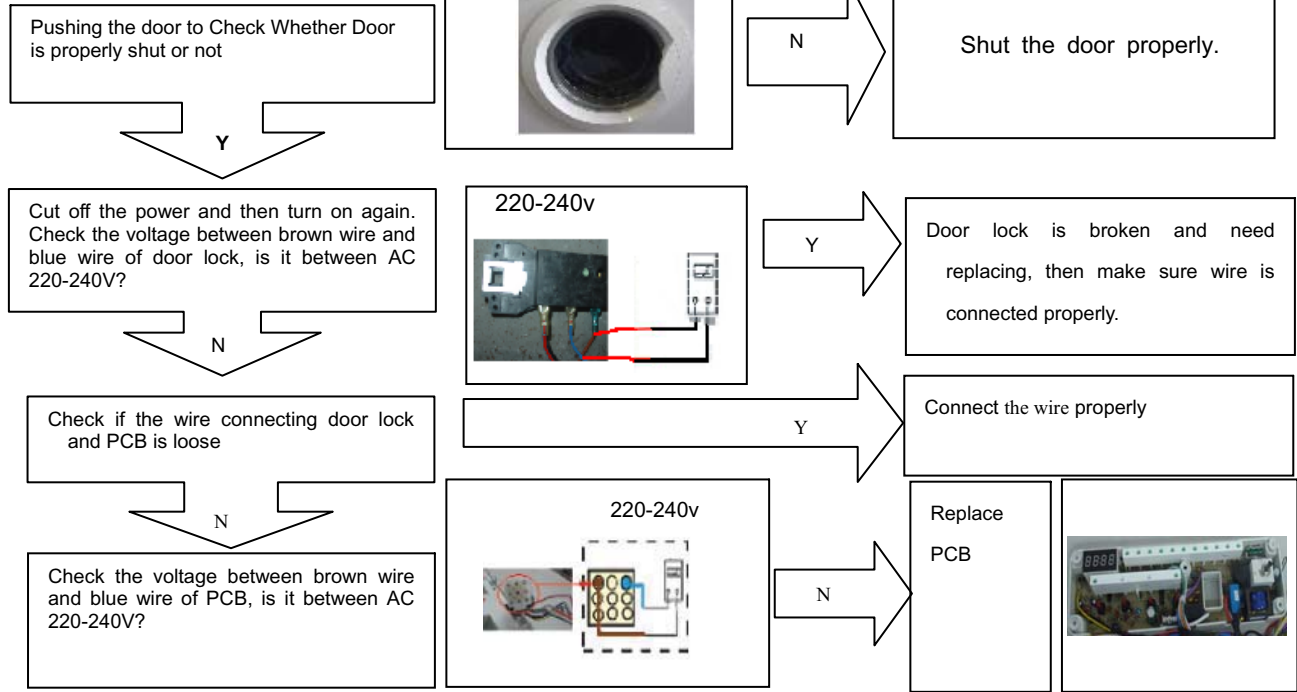
2) The wash cycle times are intended as a guide only. The actually used time may vary due to different water pressure ,initial water temperature,etc.

Error Display and Troubleshooting



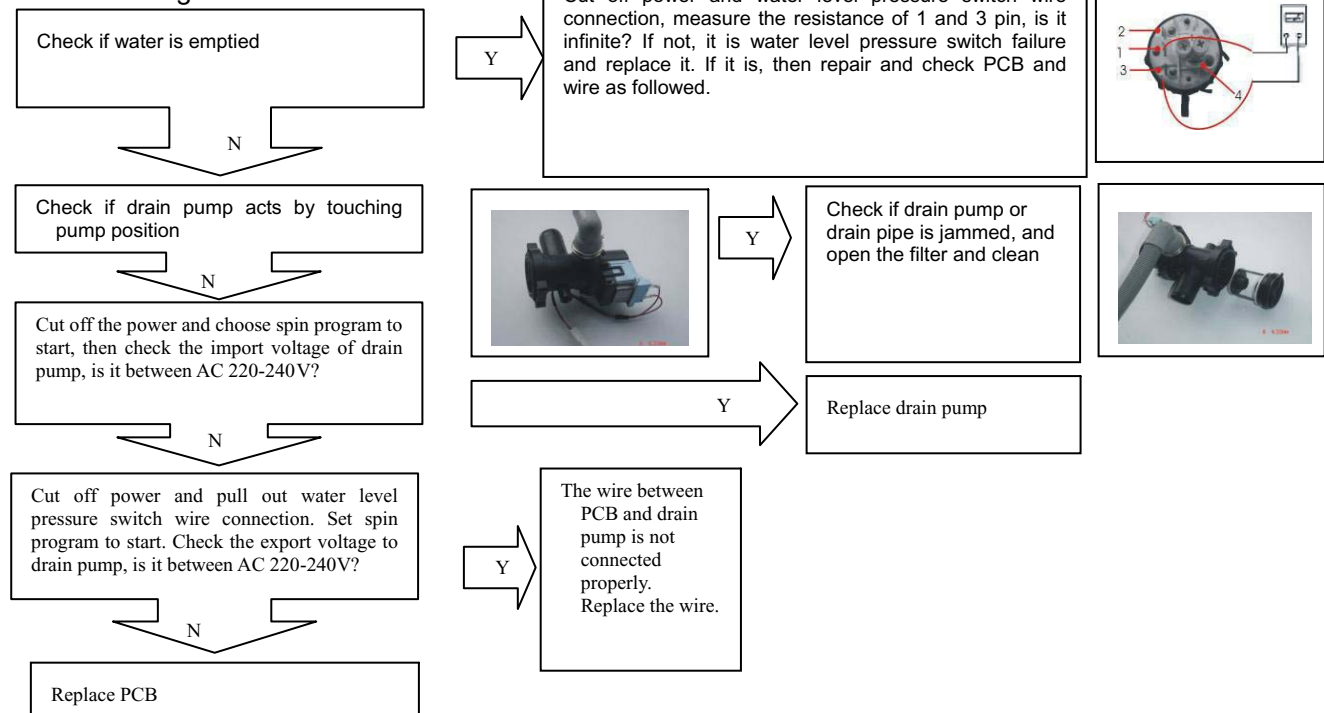
Error message: Door is not properly shut 20s after program is started.

Troubleshooting:



Error message: Drainage error, water not emptied within 4 min.

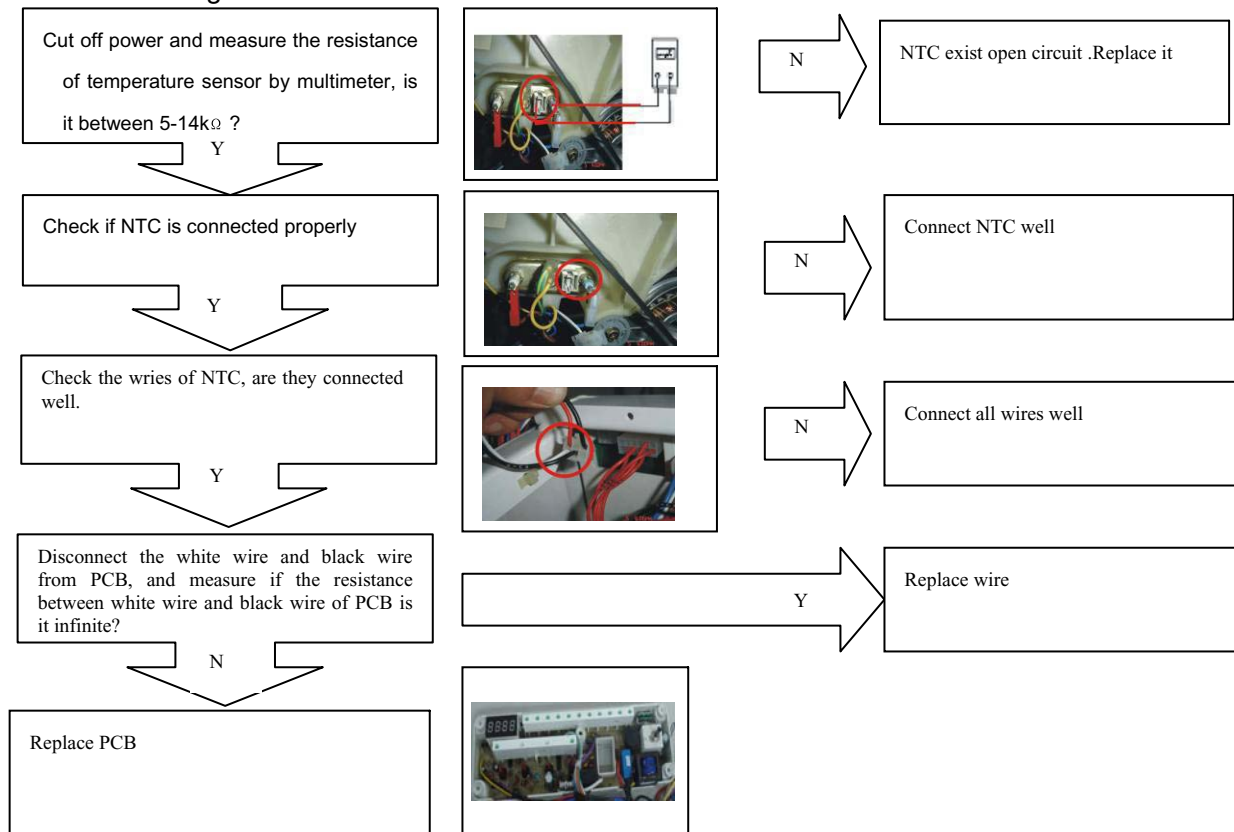
Troubleshooting:





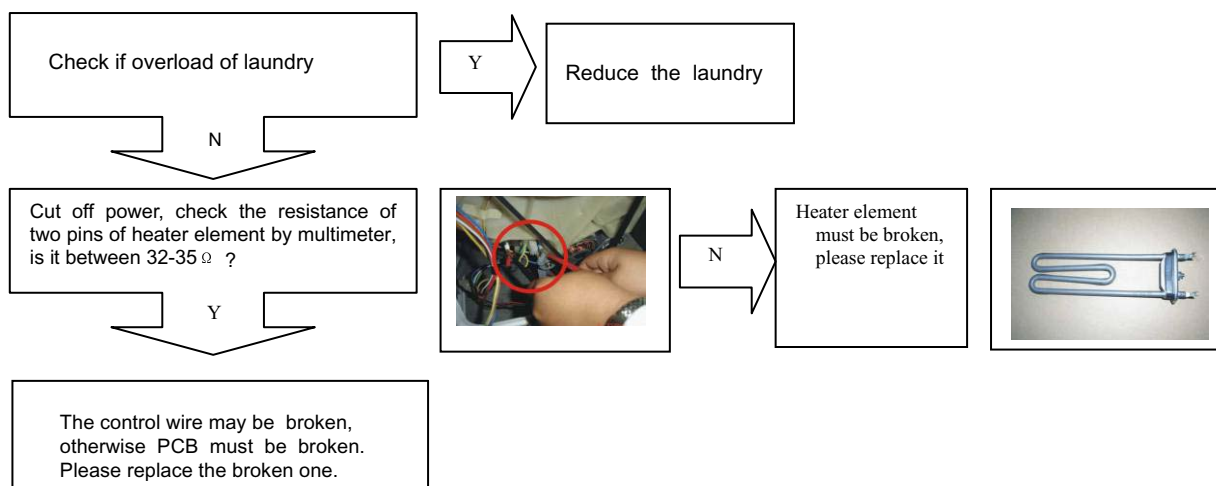
Error message: Temperature sensor is not properly connected or damaged (display at the end of a program).

Troubleshooting:



Error message: The heater may be broken

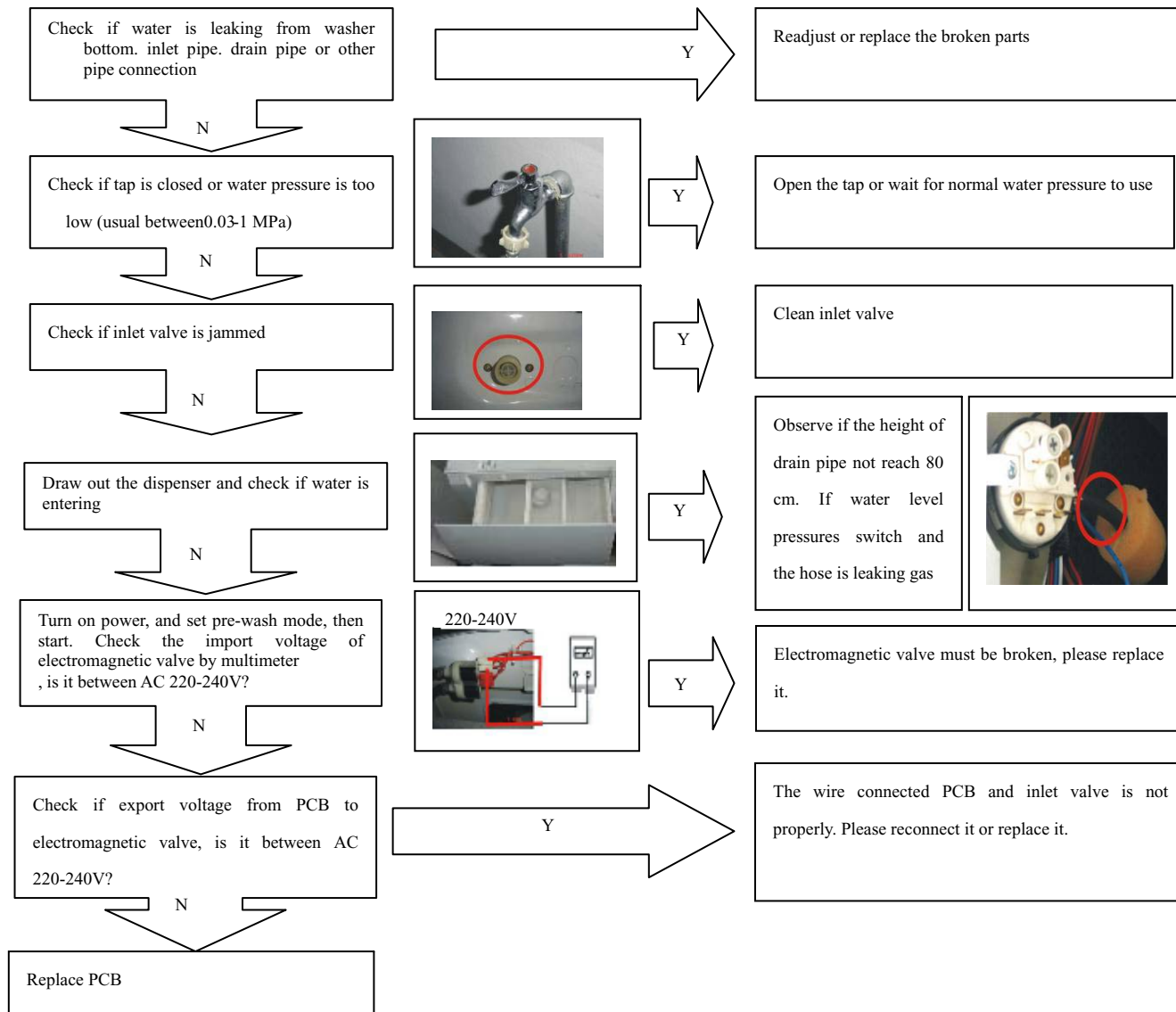
Troubleshooting:





Error message: The required water level is not reached within 8 min

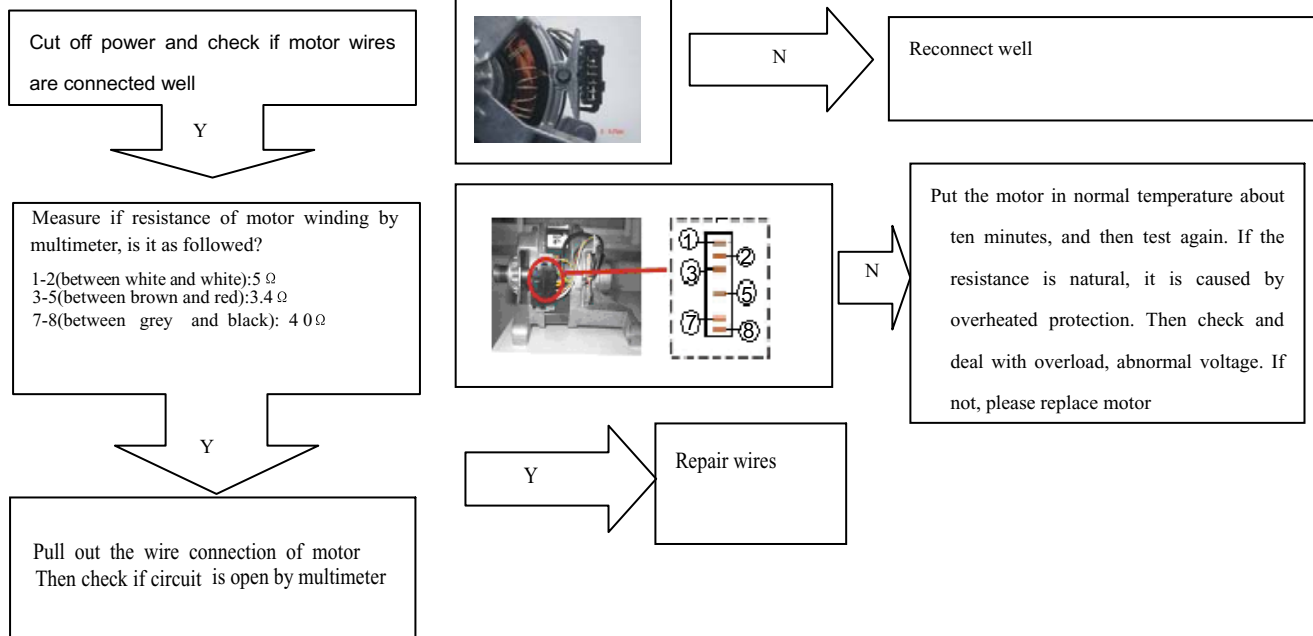
Troubleshooting:





Error message. Motor overheat protection or damaged.

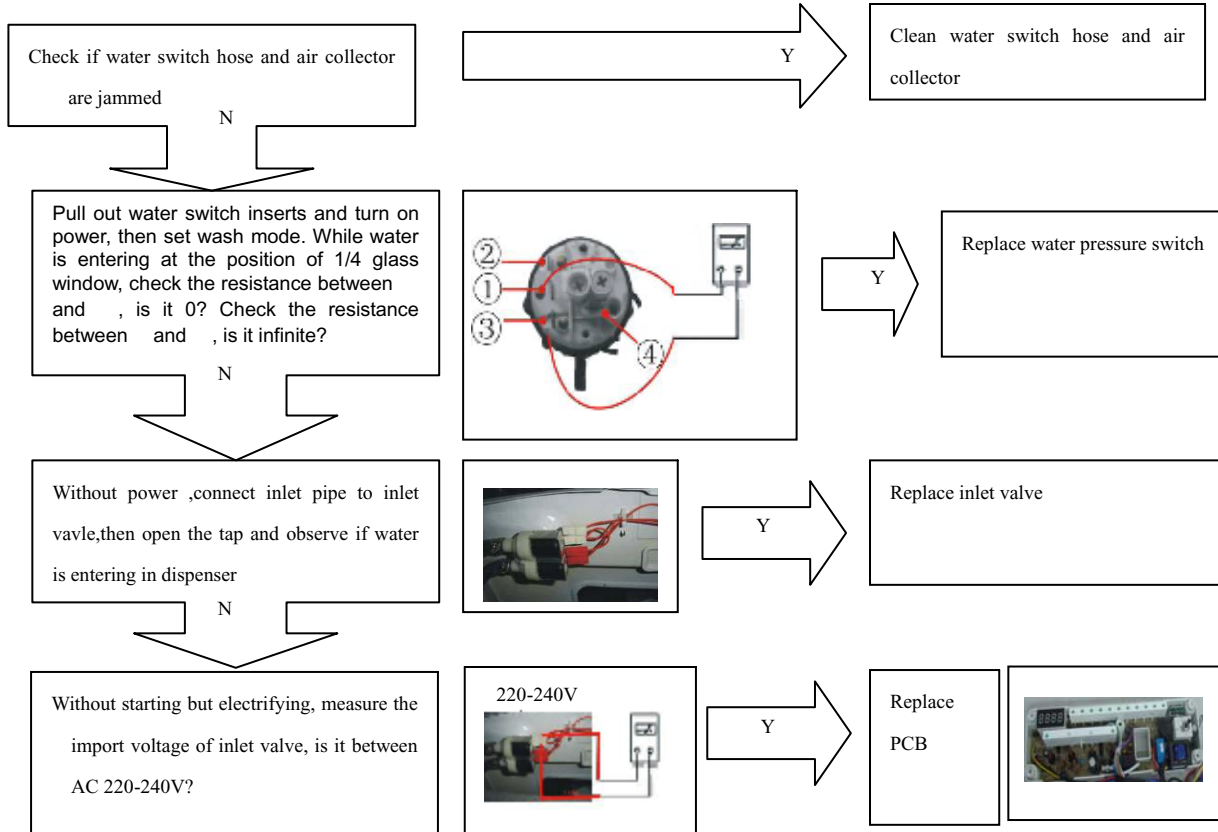
Troubleshooting:





Error message. Water level exceeds protective value.

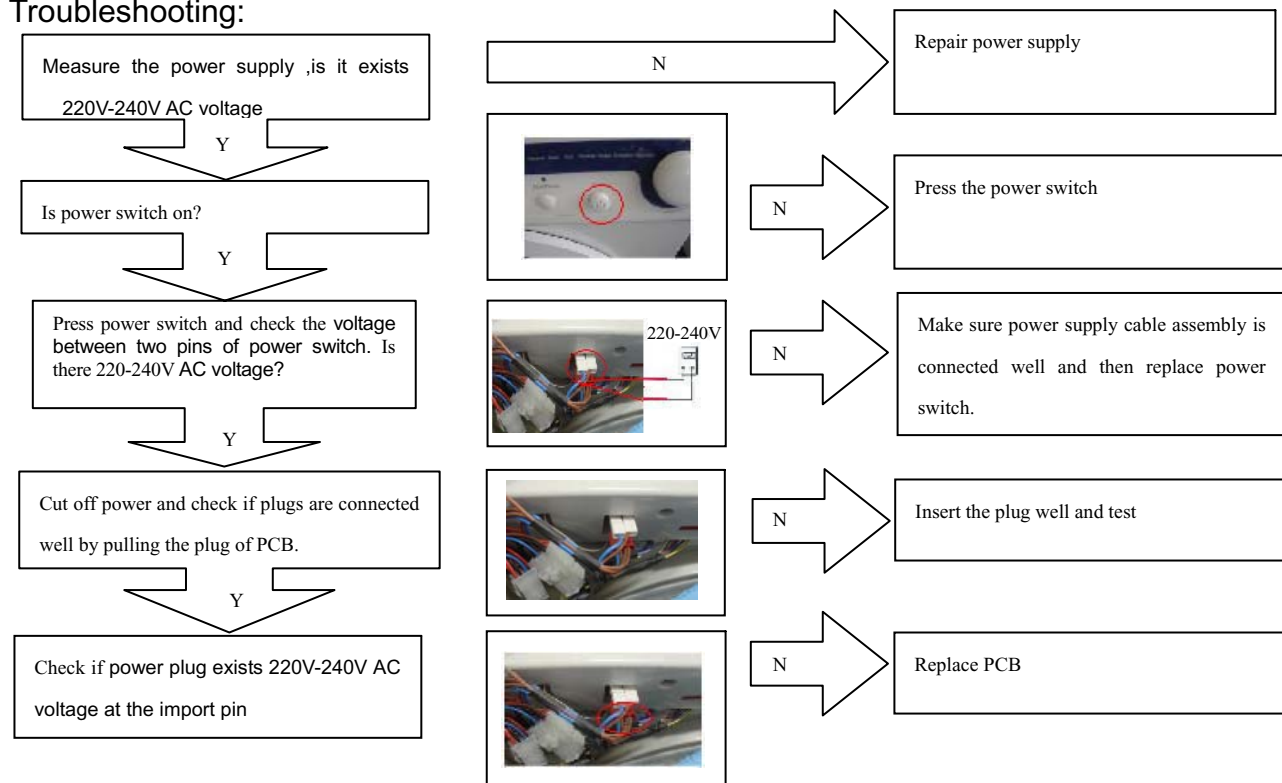
Troubleshooting:



Examination & Troubleshooting

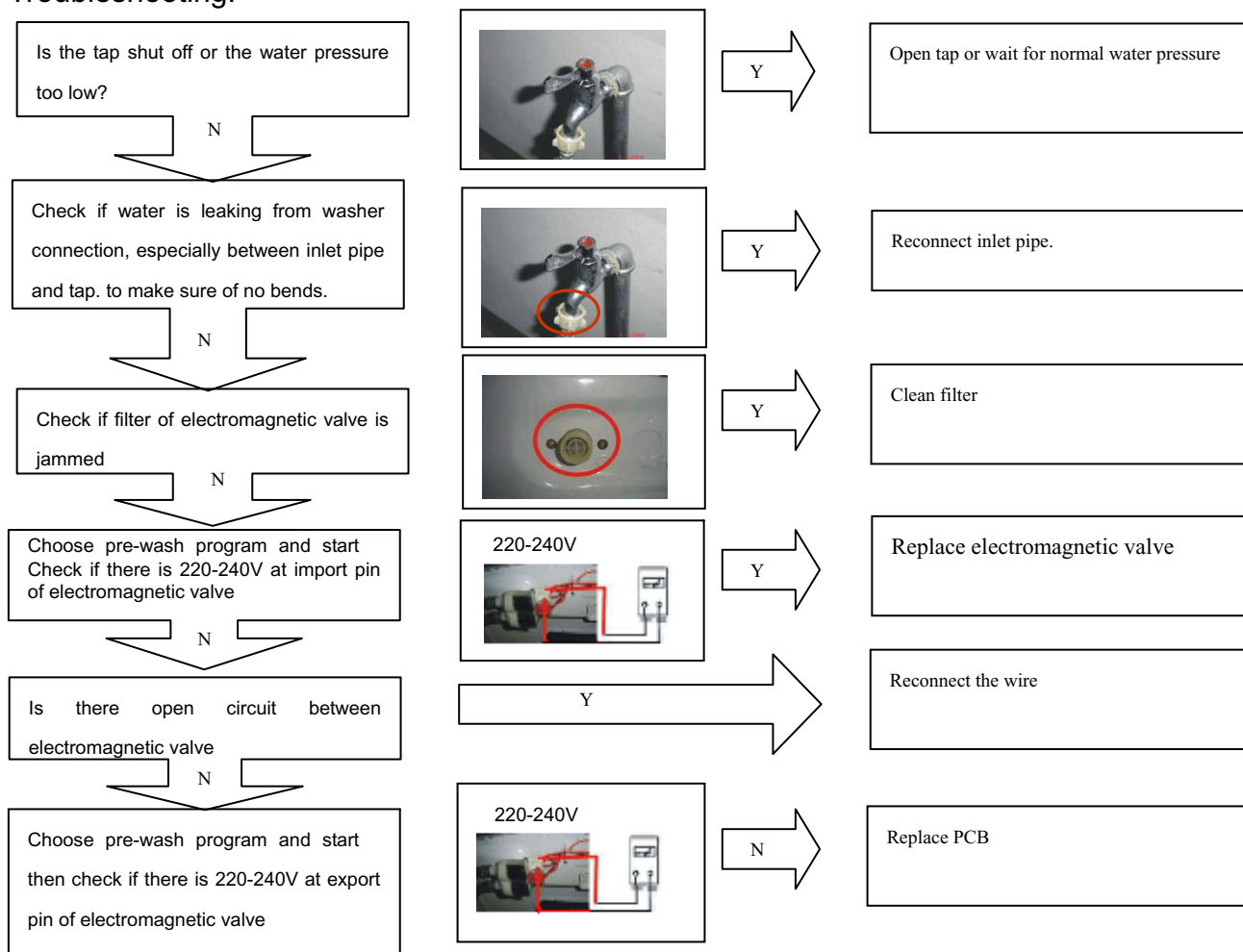
Failure:Display nothing

Troubleshooting:



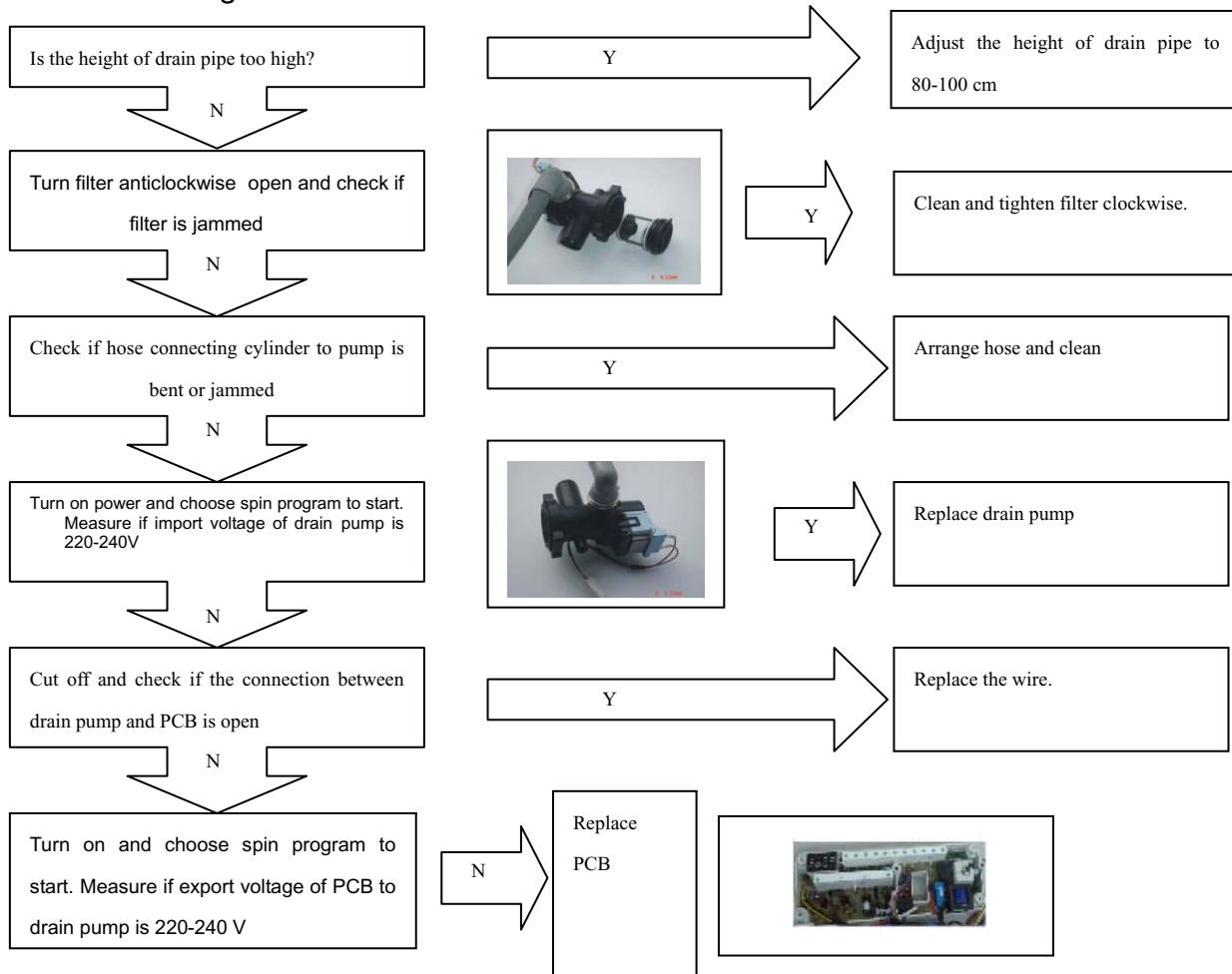
Failure:no water inletting

Troubleshooting:



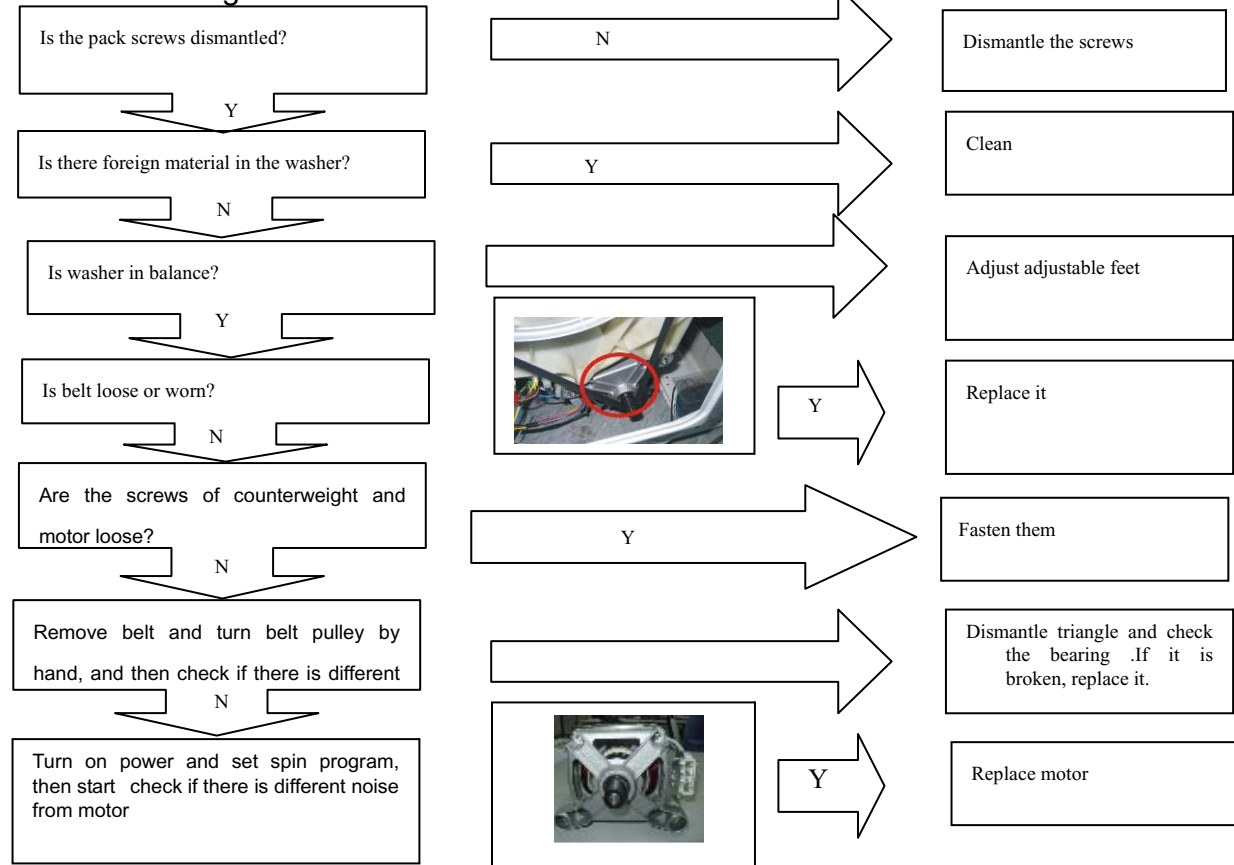
Failure:no draining

Troubleshooting:



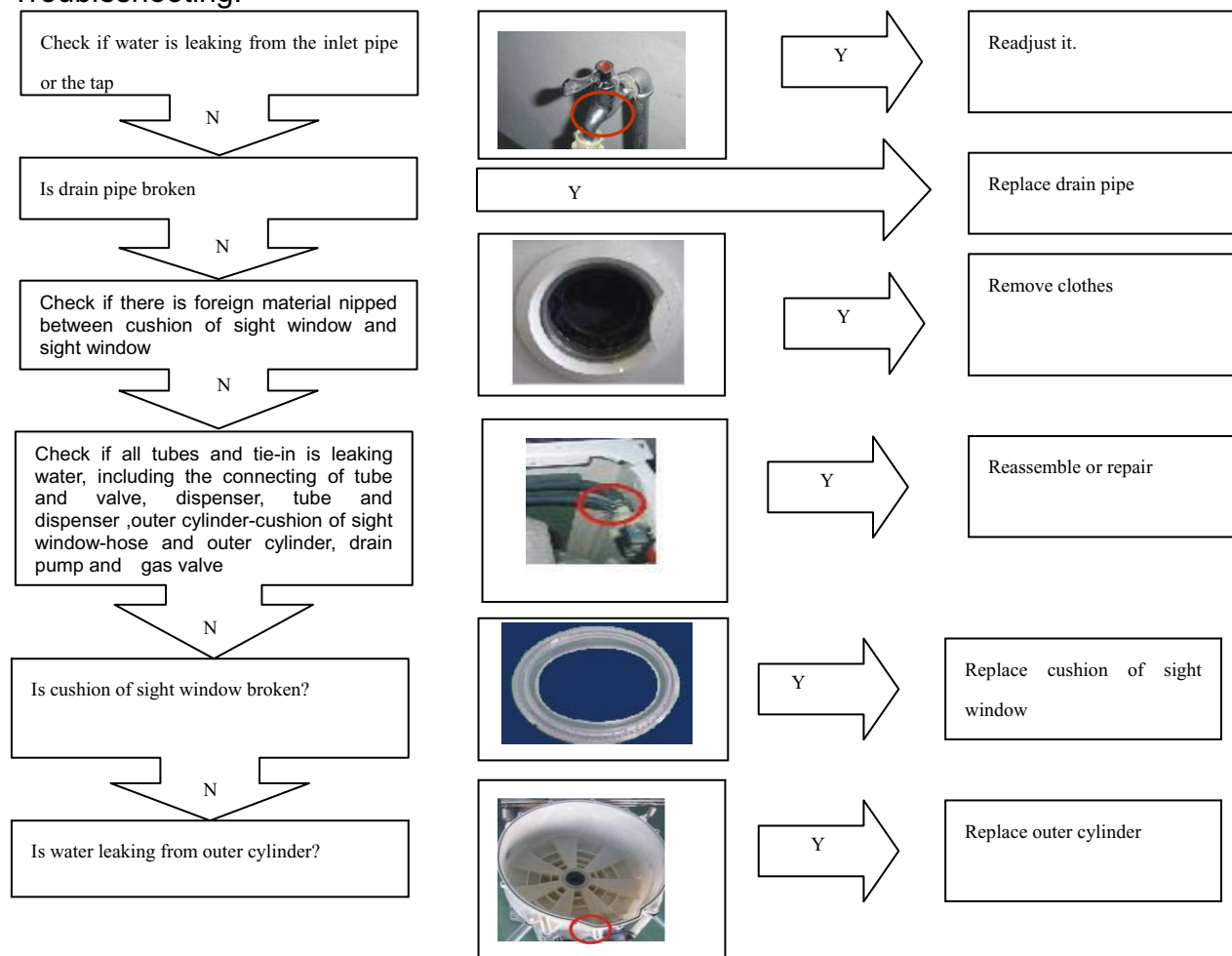
Failure :abnormal noise and vibration

Troubleshooting:



Failure:water leaking

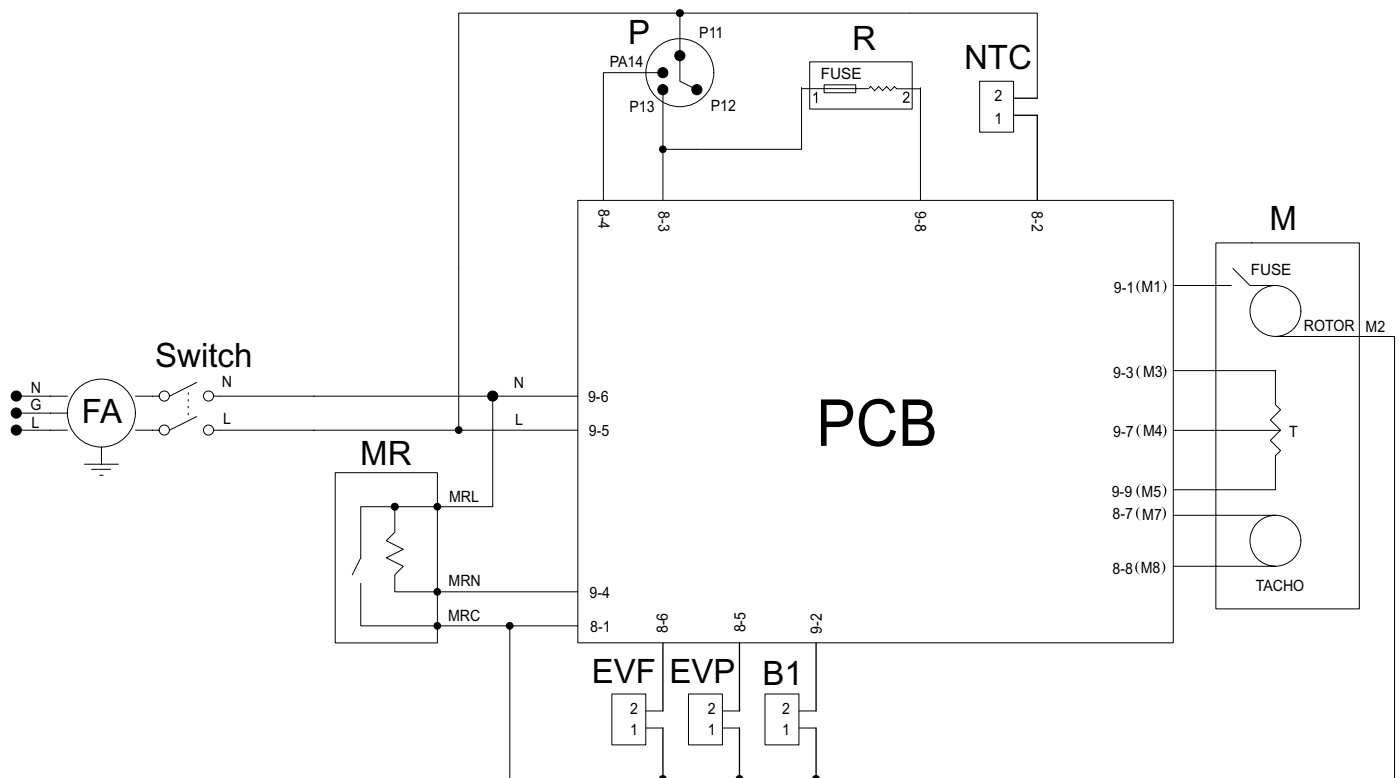
Troubleshooting:



NOTE:

1. If you want to stop the program setting, At first, you should press the button of start/pause only one time. Then turn off power, If you want to start the program setting again, you should turn on the power again, so it is ok.
2. Switch on the power, turn the program button at "drian" position, press the "temperature" and "start" button at the same time. Machine will start a self test program
 - 1) When the door switch is closed for ten seconds, 88:88 will be displayed.
 - 2) When the main wash valve allows water to let in for 3 seconds, 77:77 will be displayed.
 - 3) When the pre-wash valve allows water to let in for 3 seconds, 77:77 will be displayed.
 - 4) When the hot water valve allows water to let in for 3 seconds, 77:77 will be displayed.
 - 5) When the main wash valve, the pre-wash valve and also the hot water valve allow water to let in for 3 seconds at the same time, 77:77 will be displayed.
 - 6) When the motor runs for ten seconds with the spin speed 93rpm, 66:66 will be displayed.
 - 7) When the motor runs for 50 seconds with the spin speed 800rpm, 66:66 will be displayed.
 - 8) When the main wash and pre-wash allow the water to go in meanwhile until the maxim water level, 55:55 will be displayed.
 - 9) When the water fills the tub fully, it will stop for ten seconds and at this time 55:55 will be displayed.
 - 10) When the motor runs clockwise for 15 seconds with 50 rpm, the washing machine will stop for 5 seconds and at this time 44:44 will be displayed.
 - 11) When the washing machine heats water for 10 seconds, 33:33 will be displayed.
 - 12) When the washing machine drains for 30 seconds, 22:22 will be displayed.
 - 13) When a program cycle is finished, END will be displayed.

Wiring Circuit



PCB-Printed Circuit Board
 FA-Interference Suppressor
 Switch-Power Switch
 P-Pressure Switch
 R -Heating element

NTC-Temperature Sensor
 MR-Door Lock
 EVP,EVF-Water Inlet Magnetic Valve
 B1 -Drainage Pump
 M-Motor

END